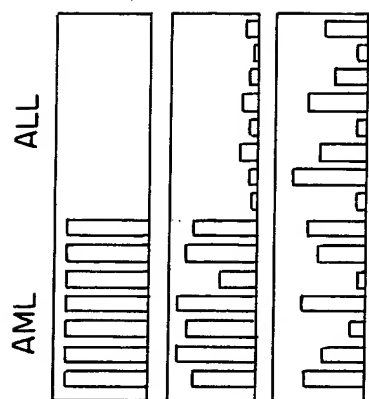


FIG. 1A



$$c = (1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0)$$

$$\text{gene}_1 = (e_1, e_2, e_3, \dots, e_{12})$$

$$\text{gene}_1 = (e_1, e_2, e_3, \dots, e_{12})$$

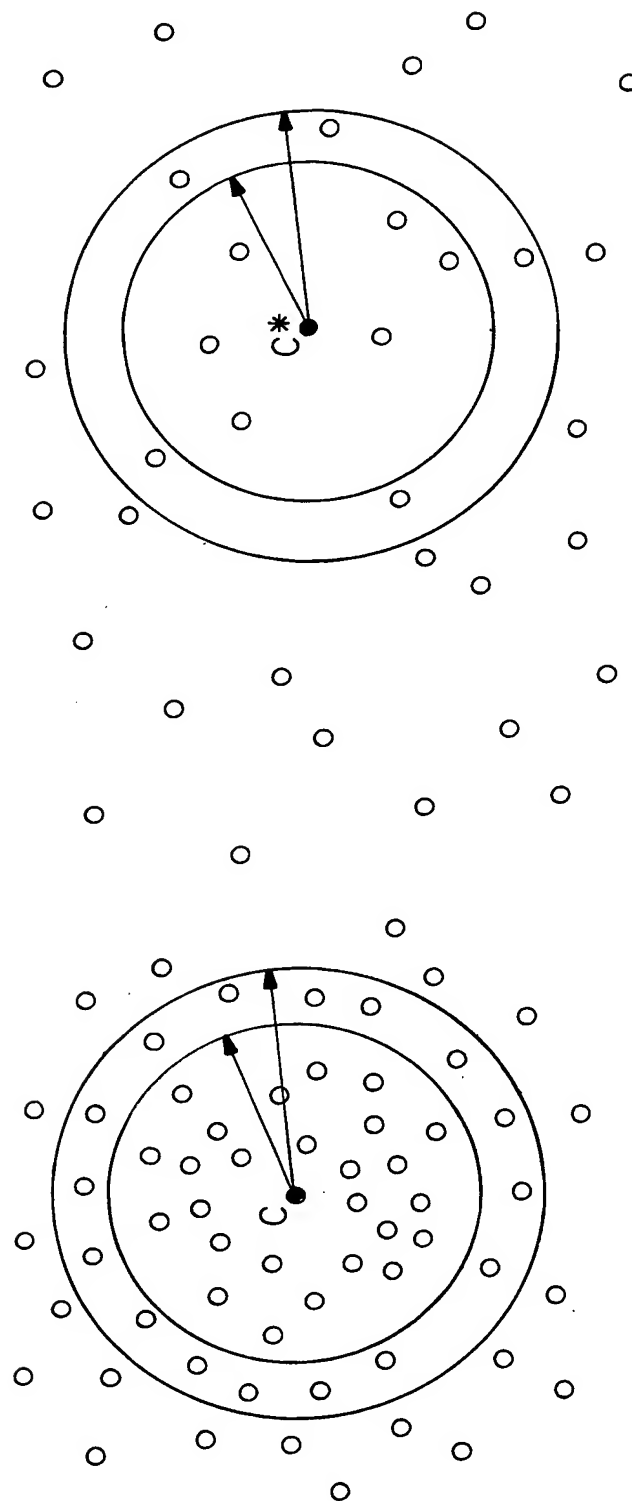


FIG. 1B



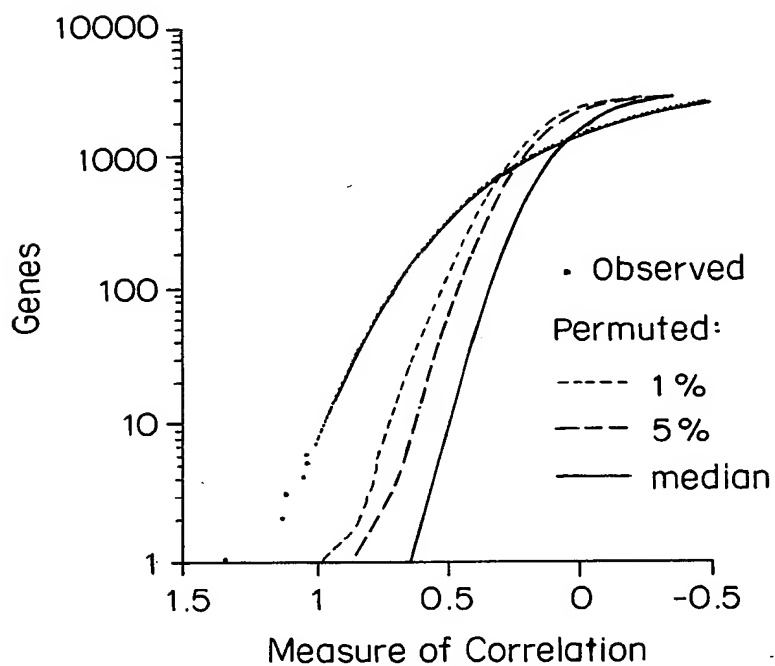


FIG. 2A

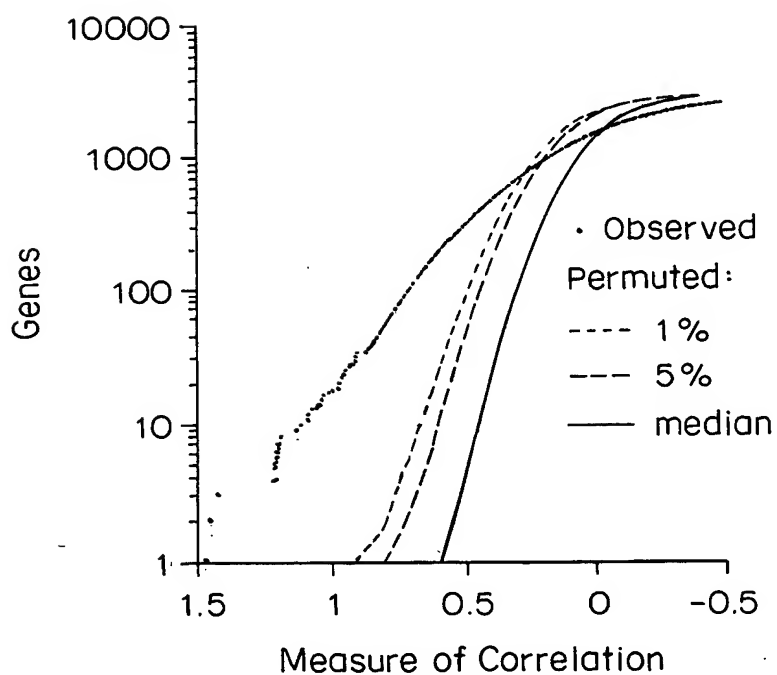


FIG. 2B

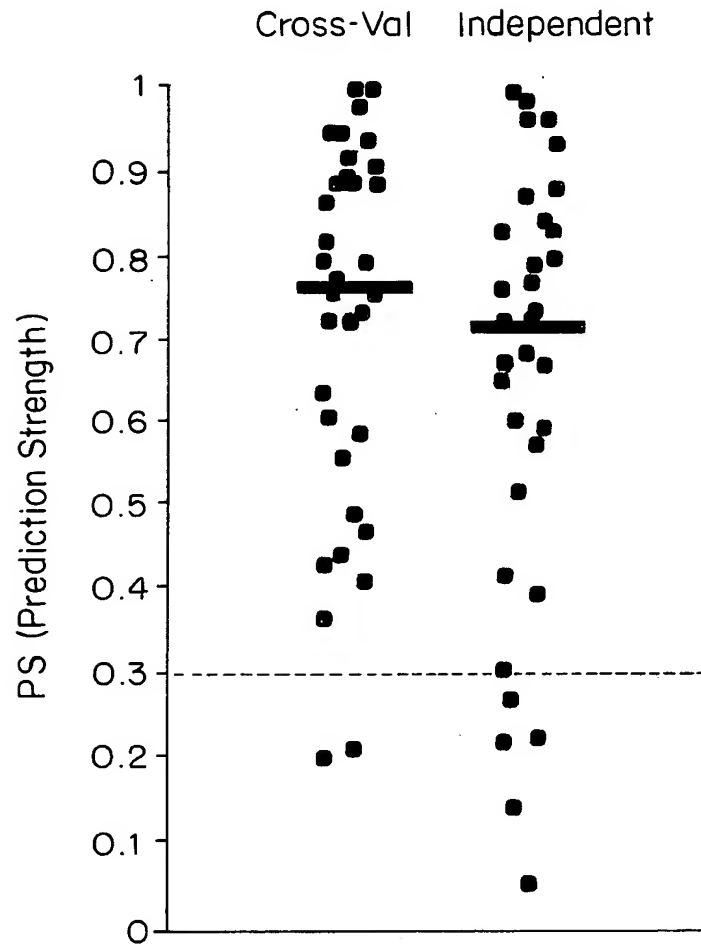


FIG. 3A

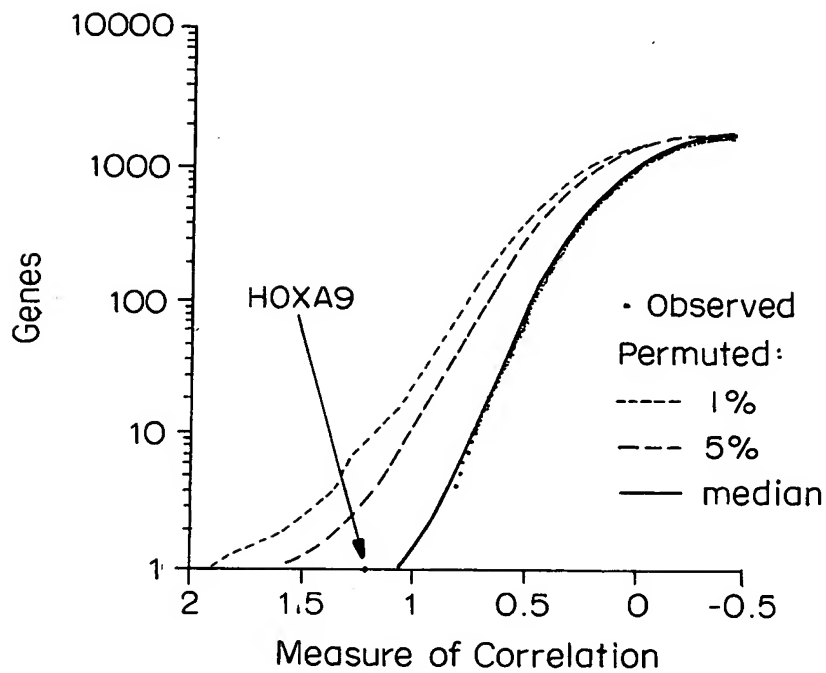


FIG. 4A

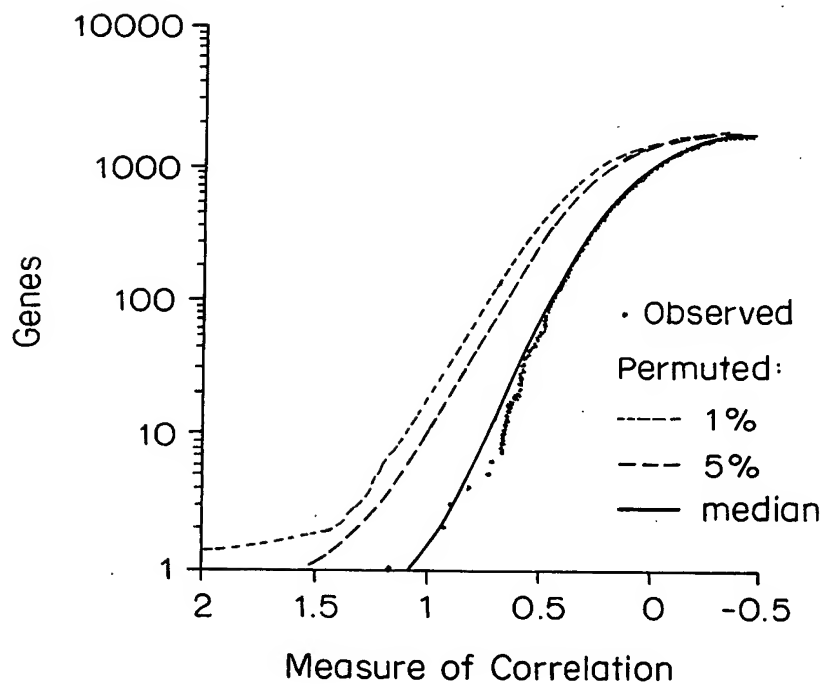


FIG. 4B

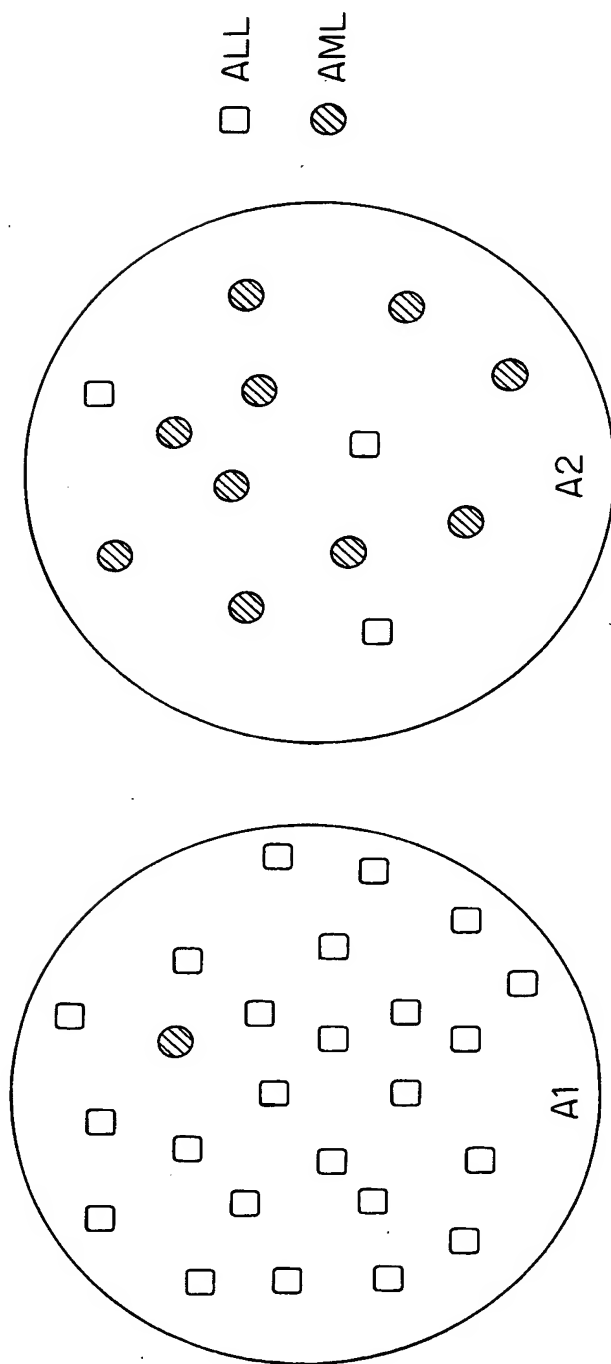


FIG. 5A

JC41
 May 14 2007

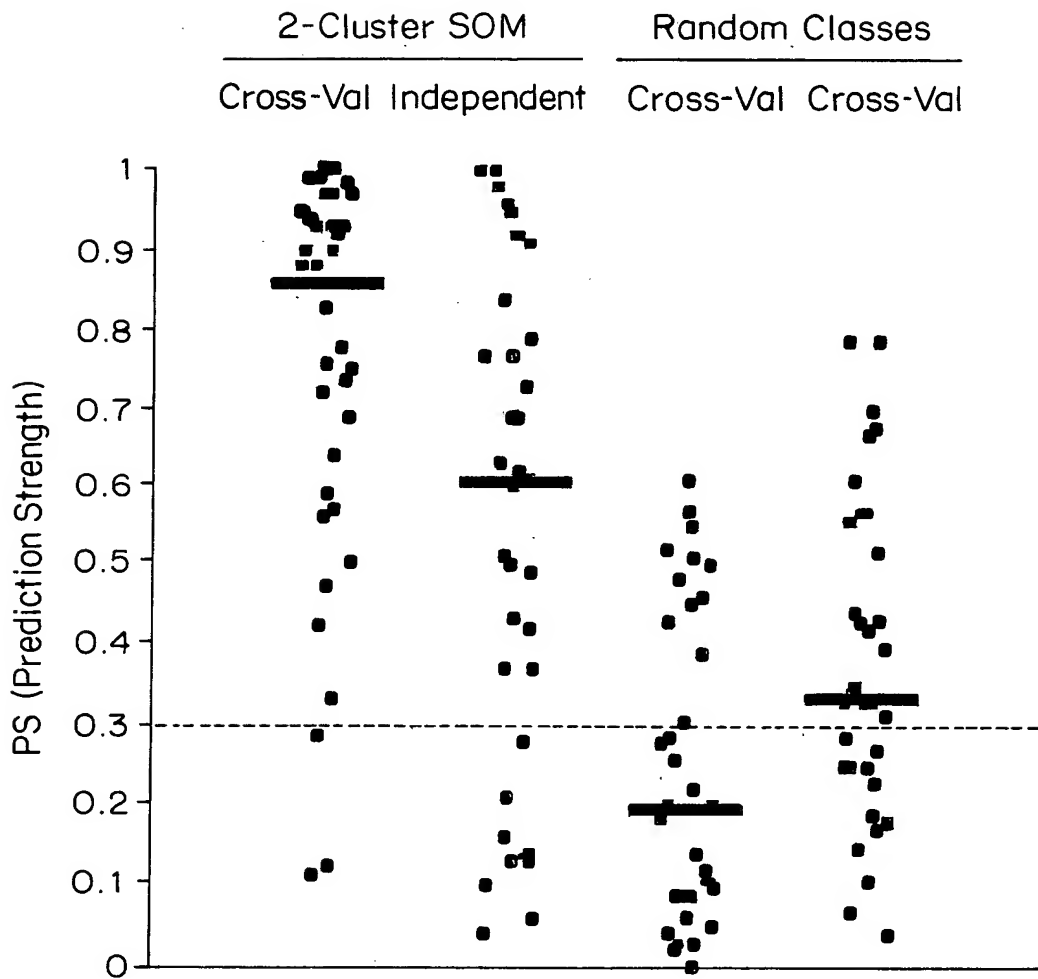


FIG. 5B

204750" 62747001

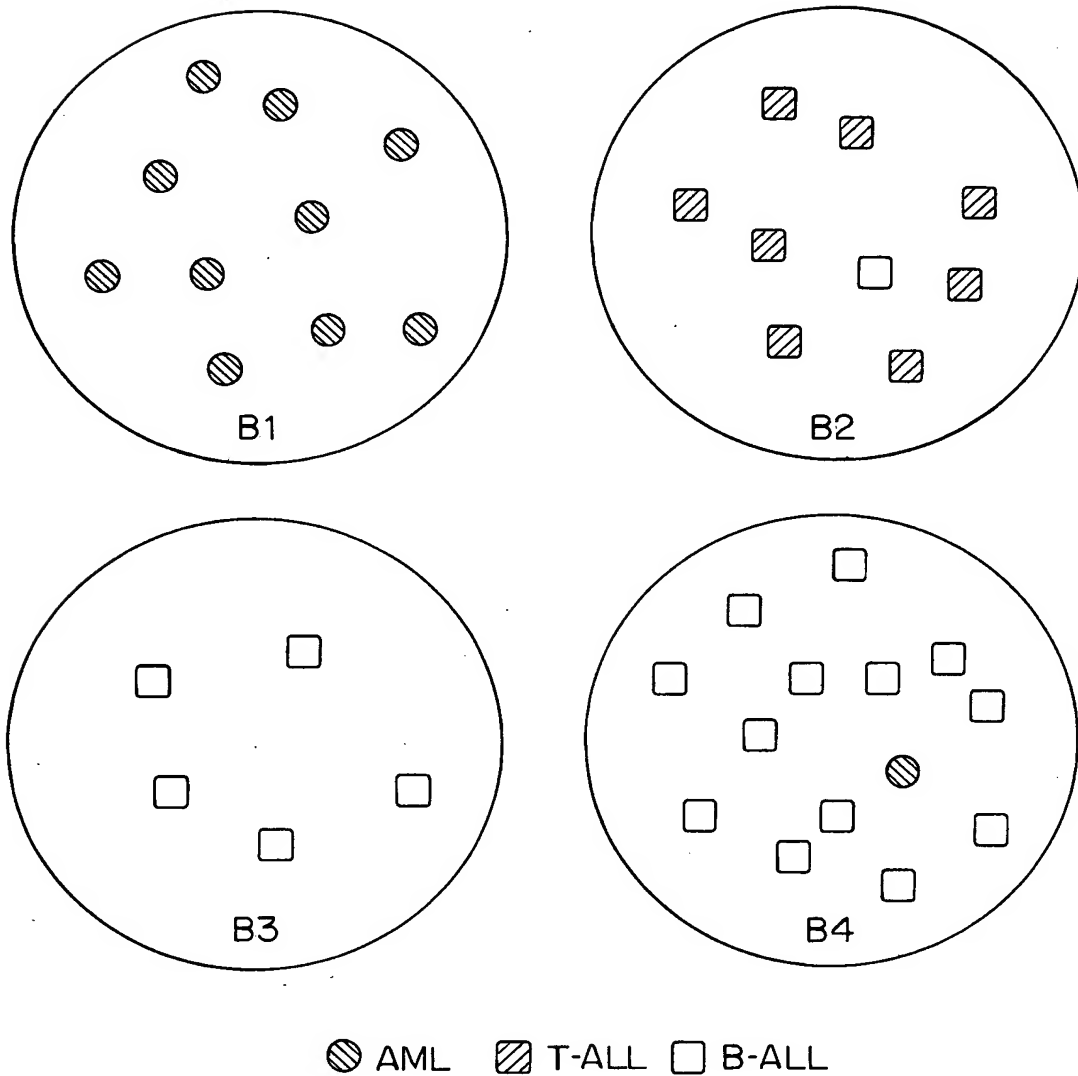


FIG. 5C

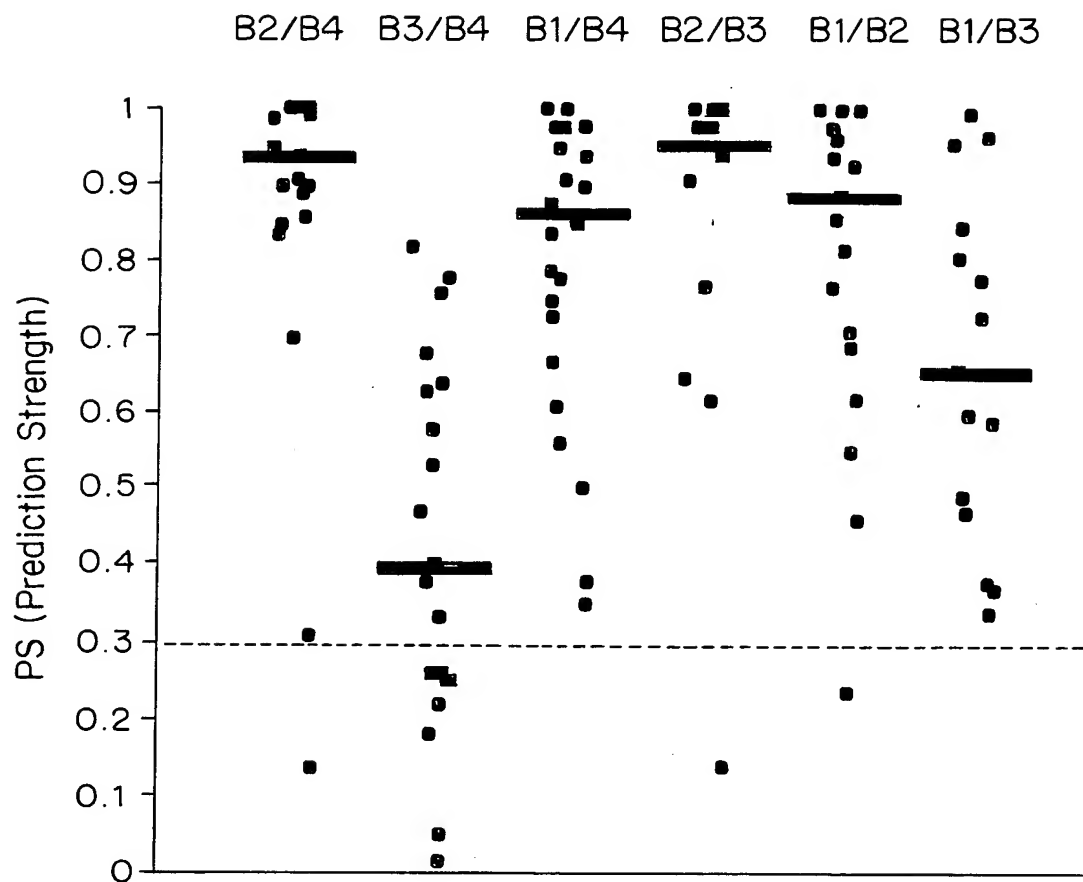


FIG. 5D

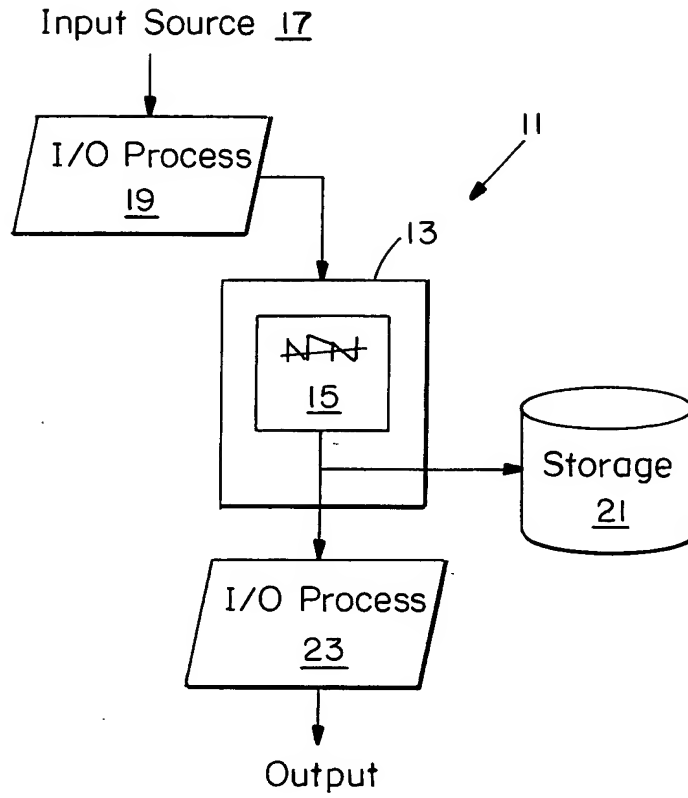


FIG. 6

10074789-051402

Discovered Classes:

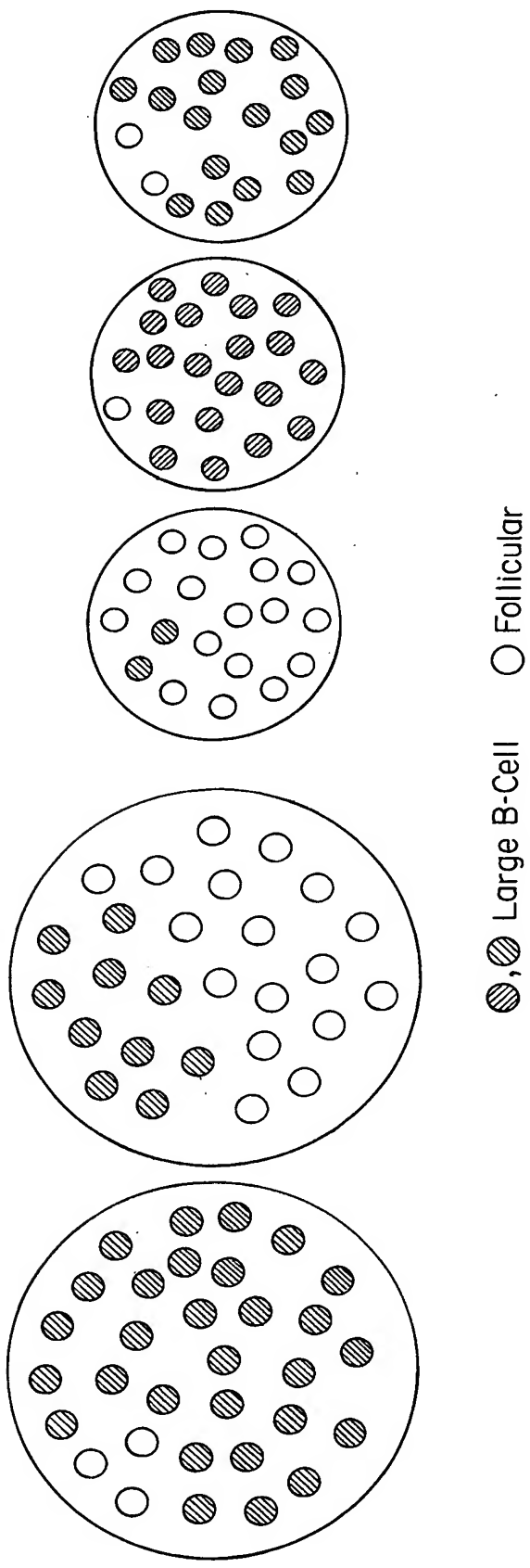


FIG. 7

Discovered Classes:

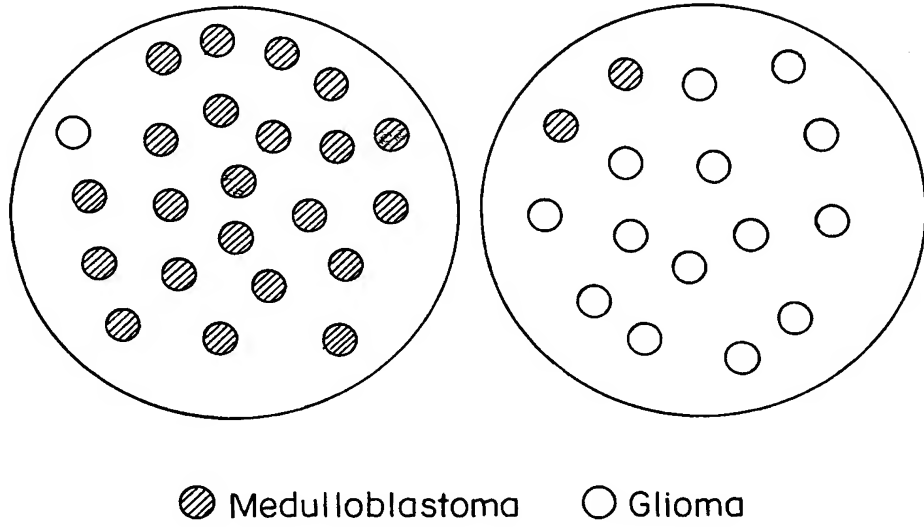


FIG. 8

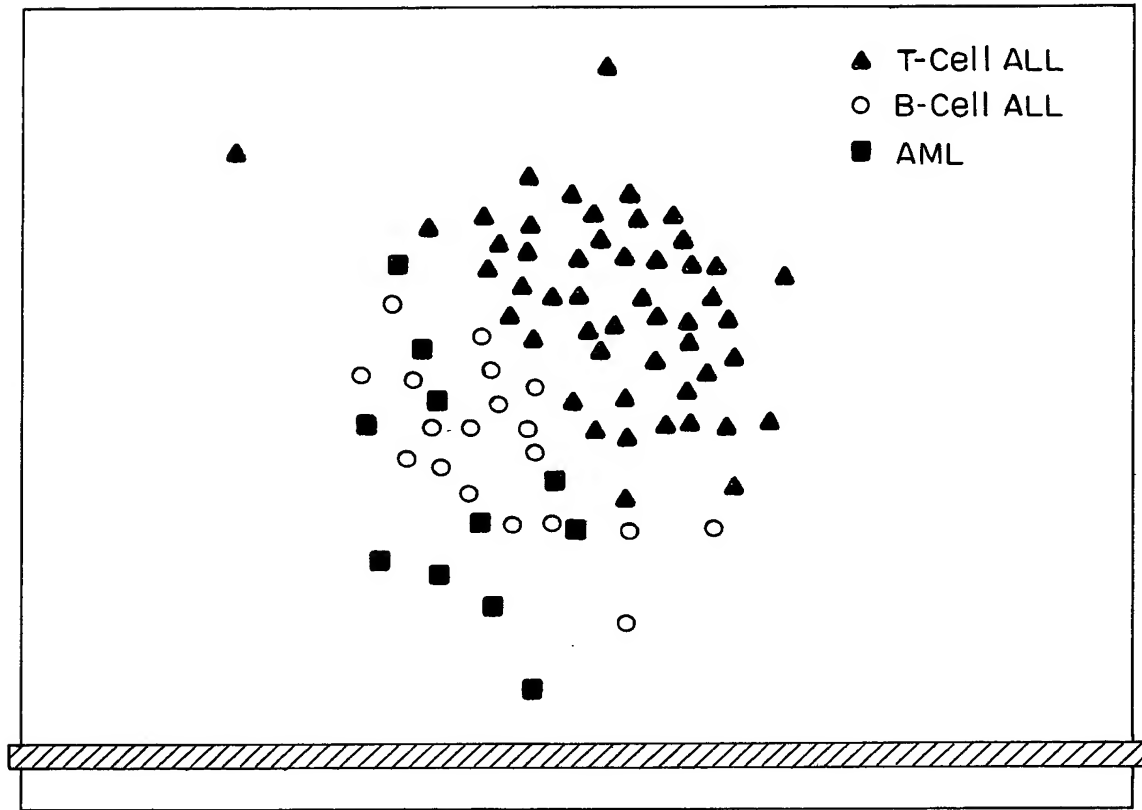
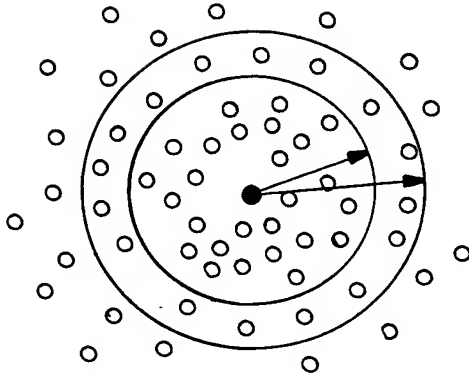
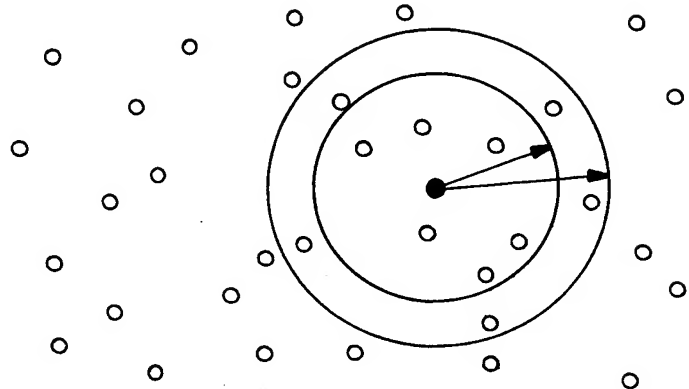


FIG. 9



Class Pattern
Neighborhood

FIG. IIA



Permuted Pattern
Neighborhood

FIG. IIB

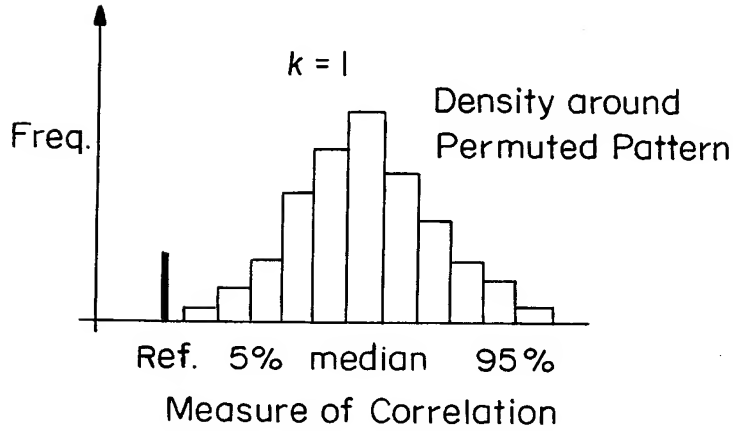


FIG. IIC

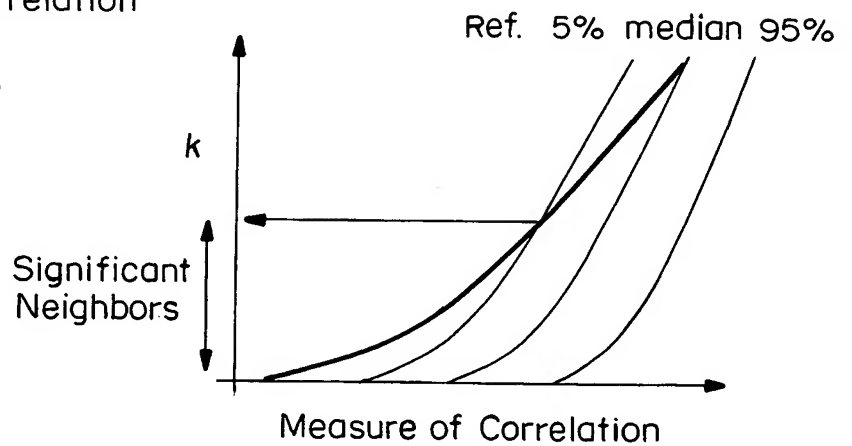

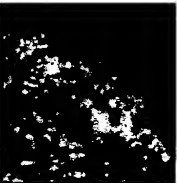





FIG. IID

10074789.051402

FIG. 10

Hierarchy of Problems in Molecular Class Prediction

Problem:	Difficulty:	Gene Markers:	Error:	Example:	
I. Tissue or Cell Type Normal vs. Abnormal	Low	~1000-2000	~0%	Normal	vs. Renal Carcinoma
II. Morphological Type	Low-medium	~200-500	~0-5%		vs. AML 
III. Morphological Subtype	Medium-high	~50-100	~0-15%	ALL B-	vs. T-Cell 
IV. Treatment Outcome Drug Sensitivity	High	~1-20	~5-50%	AML Treatment Outcome  vs. 	

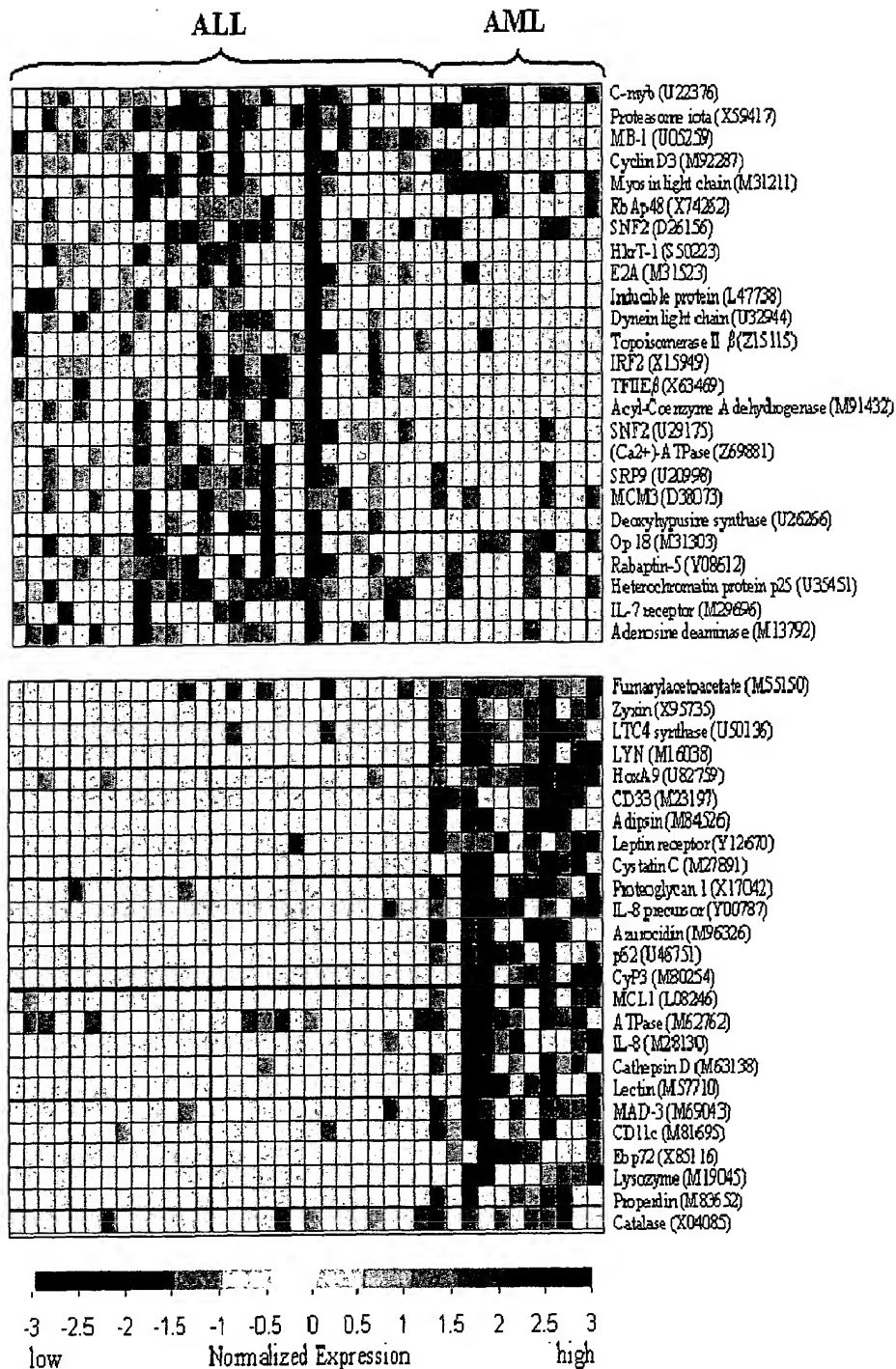


FIG. 3B

CLASS PREDICTION RESULTS

Problem Type	Biological System	Problem Distinction	Number of samples	Number of errors	Number of no calls	Number of errors (all calls)	Number of gene markers
I	Renal	Normal v. Carcinoma	12	0 (0%)	0	0 (0%)	>100
II	Leukemia	ALL vs AML	35	0 (0%)	2	0 (0%)	700
III	Leukemia	ALL B v. T-Cell	33	0 (0%)	1	1 (3%)	200
IV	Leukemia	Treatment Outcome	15	2 (13%)	0	2 (13%)	1

Fig. 12